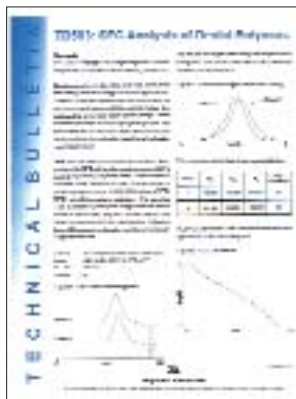


SEC analysis of dental polymers

Reader Service 270



Polymer Laboratories has published a technical bulletin describing the analysis of an important copolymer of vinylmethyl ether and maleic anhydride, which is used as an adhesive in dental formulations. For these commercially important polymers, molecular weight distribution is a key factor that controls the adhesion properties of the material. In this technical bulletin, aqueous size exclusion chromatography using the company's PL aquagel-OH mixed

8 µm columns allows subtle differences between two batches of product to be assessed.

Polymer Laboratories Ltd, Church Stretton, Shropshire, UK.

Sample clean-up

Reader Service 273



Grace Vydac provides a method for sample clean-up and analysis of various compounds that reportedly saves time, solvent and cost using its VENTURE immunoaffinity HPLC guard columns. These columns use the same surface passivation technology, ICETech™, as noted in the application for VENTURE™ A and benefit from the high capacity and rigidity of a silica gel base. The columns are available for the analysis of aflatoxin, lactoferin, vitamin B12, testosterone,

nortestosterone, 17- α -ethynyl estradiol, 17- β -estradiol, estrone, bisphenol A, chlorophenoxy acetic acid herbicides, phenylurea herbicides, organophosphate pesticides and vinclozolin fungicide.

Grace Vydac, Columbia, Maryland, USA.

LC-MALDI for protein identification

Reader Service 271



A comparative study from Bruker Daltonics demonstrates the advantages of LC-MALDI coupling for the identification of proteins from mixtures, such as 1D gel samples. Implementation of an LC separation step is said to efficiently reduce the complexity of the sample thus minimizing ion-suppression effects. LC-MALDI is reportedly able to provide much more analytical information compared with direct MALDI analysis, which is reflected in the

larger number of proteins unambiguously identified with significantly improved sequence coverages.

Bruker Daltonik GmbH, Bremen, Germany.

Analysis of explosives

Reader Service 274



Thermo Electron has released an application note providing a method for analysing several explosive compounds, including precursors and residues in negative chemical ionization using GC-MS. The company's Finnigan™ TRACE™ DSQ™ GC/MS is used in this application and by determining extremely low levels of compounds is said to exhibit high performance by minimizing extraction time and resources in the analysis of explosives. The method described

demonstrates reliable results and achieves excellent levels of sensitivity for fast screens and a large dynamic range for quantification. Furthermore, the method proves to be successful in providing accurate and rapid identification of residues using fast GC techniques.

Thermo Electron Corp., Austin, Texas, USA.

Detection and characterization of metabolites

Reader Service 272

Applied Biosystems has released an application note demonstrating how its hybrid linear ion trap (LIT) instrument, the 4000 Q TRAP® system, can overcome the limitations of traditional 3D and non-hybrid linear ion traps for metabolite identification and confirmation. The system provided ultra low-level detection and characterization of glyburide, a drug used to control hypertension in type II diabetes, on the same system in a single experiment. Its sensitivity, combined with the variety of scan modes, can provide researchers with a more comprehensive view of drug metabolites.

Applied Biosystems Inc., Warrington, Cheshire, UK.

Protein aggregation determination

Reader Service 275



Available from Viscotek Europe is an application note showing how protein fractions collected from a preparative ion-exchange column can be analysed quickly and easily for the presence of aggregation. The analysis can be performed in under 5 min using a combination of UV, viscometer and light-scattering detection giving molecular weight, viscosity and the % aggregation of the protein.

Viscotek Europe Ltd, Crowthorne, Berkshire, UK.

Laboratory catalogue

Reader Service 276



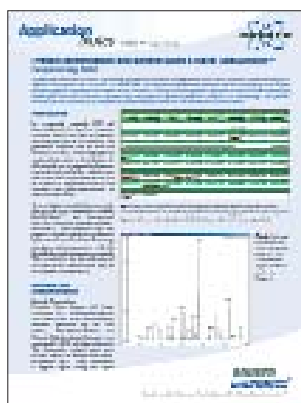
Tosoh Bioscience has released a catalogue featuring its range of HPLC columns including both silica and polymer-based, porous and non-porous, and small resin volumes. The catalogue also contains a large number of detailed applications on the various columns available and is a useful reference to suit varying separation needs. Columns featured include SuperAW GFC columns for fast analysis of water-soluble polymers.

Tosoh Bioscience GmbH,

Stuttgart, Germany.

Protein identification

Reader Service 277



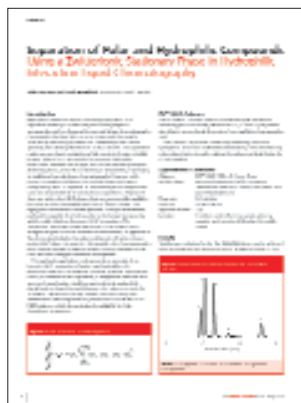
Bruker Daltonik offers an application note for protein identification using its Novel RapiDeNovo™ sequencing tool. Proteomic research *de-novo* sequencing of peptides becomes an important issue when database search results fail to explain all the peaks in a data set. The note explains how sequence information obtained can be successfully used to find modified peptide sequences and errors in the database. Locally available protein sequence

databases were searched for homologies with the calculated sequence tags and peptide sequence proposals using BLAST technology.

Bruker Daltonik GmbH, Bremen, Germany.

Separation of polar and hydrophilic compounds

Reader Service 278



SeQuant offers an application note describing the use of its ZIC®-HILIC column as a suitable tool for HILIC mode separation of purines and pyrimidines. By taking advantage of the weak electrostatic interactions between the analytes and the overall neutral zwitterionic stationary phase, and performing proper tuning of the mobile phase, with respect to organic modifier, buffer salt, ionic strength and pH, the column is said to exhibit a unique selectivity in the analysis of a

wide range of compounds. Combined with the advantageous column flow characteristics, a wide range of applications ranging from high throughput to preparative-scale separations can be performed.

SeQuant AB, Umeå, Sweden.

Analysis of MPA

Reader Service 279



Available from Thermo Electron is an application note describing the analysis of methylphosphonic acid (MPA), a metabolite of sarin, by tandem GC-MS and positive ion chemical ionization. By using the company's ion trap GC-MS technology, featured in the Finnigan™ PolarisQ, ultimate sensitivity in the analysis is provided by eliminating matrix interference and enabling quick analysis of small sample amounts. Consequently, past obstacles typically associated

with this type of analysis and inherent in forensic analysis are overcome. In addition, this method of analysing nerve gas metabolites is designed to provide the analyst with the ability to run small sample amounts quickly with less downtime.

Thermo Electron Corp., Austin, Texas, USA.

GPC analysis of PBT resins in HFIP

Reader Service 280



Polymer Laboratories has published a technical bulletin describing the analysis of polybutylene terephthalate (PBT), an important engineering polymer used in a variety of applications in which toughness and mechanical strength are key. The molecular weight distribution of PBT is a key parameter controlling the suitability of resins for end use and this technical bulletin describes the analysis of PBT by gel permeation chromatography using a viscometer. PBT is poorly soluble in

many organic solvents but is soluble in hexafluoroisopropanol. Two PL HFIPgel columns were used for the chromatography.

Polymer Laboratories Ltd, Church Stretton, Shropshire, UK.

Detection of immunosuppressive drugs

Reader Service 281

Applied Biosystems has released an application note on a simple and rapid method for the simultaneous determination of immunosuppressive drugs, such as cyclosporin A, tacrolimus, sirolimus and everolimus. Routine monitoring of these drugs in clinical research practice is vital and the analytical methods used need to be quick and simple while maintaining precision and accuracy. Using the API™ 3000 triple quadrupole mass spectrometer, low levels of drugs could be detected simultaneously with a greater specificity and broader dynamic range than commercial immunoassays.

Applied Biosystems Inc., Warrington, Cheshire, UK.

Peptide and protein RP HPLC handbook

Reader Service 282



Grace Vydac's third edition of "Handbook of Analysis and Purification of Peptides and Proteins by Reversed-Phase HPLC" provides a reference for analytical and preparative chromatographers in this area. The handbook discusses basic RP principles for peptides and proteins and includes a section on LC-MS covering topics such as column characteristics, care and maintenance of RP columns, and the effect of system hardware. A copy can be obtained or an electronic version viewed by visiting

www.gracevydac.com.

Grace Vydac, Columbia, Maryland, USA.

Separation of IgM

Reader Service 285



Tosoh Bioscience has released an application note discussing how TSKgel BioAssist columns can be used to achieve efficient and high-capacity separations of macromolecules such as IgM, which require small, macroporous particles. The columns are offered in an analytical format packed with 7 µm particles and, most recently, in a semi-preparative format packed with 13 µm particles. The note examines an alternative purification method of IgM by ion-

exchange chromatography using a novel high-capacity stationary phase. Chromatographic conditions are given, together with details of purity determination by size exclusion chromatography. According to the company the macroporous column used offered high binding capacity and good resolution for purifications of IgM and IgG antibodies.

Tosoh Bioscience GmbH, Stuttgart, Germany.

Advanced inline dialysis

Reader Service 283



Metrohm has released an application note S-183 titled "Advanced Inline Dialysis Set-up for Ion Chromatography". Metrohm Inline Dialysis is a well known automated sample preparation method for difficult samples, such as fruit juices, heavy loaded waste water etc. A new set-up makes use of two peristaltic pumps (833 Advanced Liquid Handling Pump Unit) to run the dialysis step. The application note compares the two set-ups and the results indicate the

slightly improved performance. According to the company, all existing applications developed on the former configuration may be converted directly to the new configuration without any loss of performance.

Metrohm Ltd, Herisau, Switzerland.

Separation of polar compounds

Reader Service 286



SeQuant offers an application describing the separation of peptides, nucleotides and acrylamides. The company's ZIC®-HILIC column is a suitable tool for HILIC mode separation of polar and hydrophilic compounds. By taking advantage of the weak electrostatic interactions between the analytes and the overall neutral zwitterionic stationary phase, and performing proper tuning of the mobile phase, with respect to organic modifier, buffer salt, ionic strength and pH,

the column is said to exhibit a unique selectivity in the analysis of a wide range of compounds. According to the company, it was not possible to reproduce the separations described on other HILIC phases exhibiting strong electrostatic interactions.

SeQuant AB, Umeå, Sweden.

Analysis of PET polymer

Reader Service 284



This DSV (dilute solution viscosity) application note from Viscotek Europe explains how the Y501 relative viscometer can be used for the analysis of PET (polyethylene terephthalate). The Y501 shows excellent accuracy and precision in both solvents commonly used in the dissolution of this important commodity polymer. The results are given both as specific viscosity and IV.

Viscotek Europe Ltd, Crowthorne, Berkshire, UK.